STATE OF TENNESSEE
DEPARTMENT OF ENVIRONMENT AND CONSERVATION
KNOXVILLE FIELD OFFICE
3711 MIDDLEBROOK PIKE
KNOXVILLE, TENNESSEE 37921-6538
PHONE (865) 594-6035 FAX (865) 594-6105

Hydrologic Determination Confirmation Investigation

Adams Hollow Deep Mine, LLC
Adams Hollow Deep Mine
NPDES TN0069892 (pending)
Campbell County

September 2, 2014

ADMINISTRATIVE INFORMATION:

Site:	Adams Hollow Deep Mine
SMCRA Permit:	NA
Personnel Present:	Adams Hollow Deep Mine, LLC – Bert Hatmaker
	IRTEC – Tim Slone
	USACE – Forrest McDaniel and Chad Phillips
	OSMRE – Rick Mann, Monica Wilson, Mariah Benton and Ariel Norris
	TDEC – Dave Turner and Dan Murray

OBJECTIVE:

On August 26, 2013, Division personnel participated in an inspection to confirm a hydrologic determination submitted on behalf of Adams Hollow Deep Mine, LLC. Division personnel evaluated proposed Adams Hollow Deep Mine site and hydrologic determination submitted.

OBSERVATIONS:

The water feature for which the applicant submitted a Hydrologic Field Determination Worksheet is outside of the proposed permit area. This water feature is located at latitude 36.46786, longitude -84.19309 in Campbell County, TN. The applicant scored this feature as a stream based on secondary indicators as it had been less than seven days since the last precipitation event. Approximately 400 feet of the evaluated stream is encapsulated near the confluence with an unnamed tributary to Stinking Creek in Adams Hollow. Division personnel observed multiple populations of obligate lotic organisms (i.e. Psephenidae, Ephemeroptera, Trichoptera) in the stream above the culvert at latitude 36.4683, longitude -84.19284. Seeps along the stream channel also indicated the presence of a ground water table connection. Based on the observation of these primary indicators Division staff concur that that this feature is a stream.

Unnamed Tributary HD Reach

Unnamed Tributary HD Reach

During this investigation a second water feature in the proposed mine face up area was identified that exhibited wetland characteristics. The USACE flagged the perimeter of this feature for the development of a preliminary jurisdictional determination. This feature discharged to an unnamed tributary (locally known as Adams Hollow Branch)

Wetland

Temperature	30.45°C
pH	2.30 s.u.
Specific Cond.	5997 µS/cm
D.O.	7.09 mg/l

Wetland Discharge

Temperature	24.3oC
pH	2.29 s.u.
Specific Cond.	5249 µS/cm
D.O.	7.23 mg/l

Wetland

Wetland

Wetland Discharge Location

Two samples were collected from unnamed tributary (locally known as Adams Hollow Branch). The first sample was collected upstream of the wetland discharge on the left descending bank and an unpermitted discharge from abandoned underground mine works on the right descending bank. Minnows were observed in this reach in addition to multiple populations of obligate lotic organisms (i.e. Psephenidae, Baetidae & Heptageniidae).

U/S Adams Hollow Branch

Temperature	21.28°C
pH	7.28 s.u.
Specific Cond.	332 µS/cm
D.O.	8.41 mg/l

D/S AML discharge Adams Hollow Branch

Temperature	20.26°C
pH	2.93 s.u.
Specific Cond.	1897 µS/cm
D.O.	7.95 mg/l

Sample location U/S Adams Hollow Branch

U/S Adams Hollow Branch

Right Descending Bank AML Discharge

Downstream RDB AML Discharge

The second sample was collected downstream of the wetland discharge on the left descending bank and an unpermitted discharge. Iron precipitates discolored the stream channel substrates.

D/S Sample Location Adams Hollow Branch

Temperature	22.08°C
pH	2.92 s.u.
Specific Cond.	2202 µS/cm
D.O.	8.35 mg/l

COMMENTS:

Division staff discussed the following preliminary permitting issues related to the site.

ARAP/401 Certification

- *No ARAP is required for the hydrologic determination stream if no alterations are proposed. The encapsulated reach of this unnamed tributary presents a stream mitigation opportunity that could be used for other activities within the HUC 12.*
- *ARAP for the wetlands must include mitigation for alterations to total acreage flagged by USACE.*

NPDES/402 Permit

- *NPDES permitting would require a Water Quality Standards limited permit instead of New Source Performance Standards. Alternate Storm limitations will not apply to pumped discharges from this facility.*
- *The unnamed tributary (a.k.a. Adams Hollow Branch) is acid mine drainage impacts and would have unavailable parameters that prevent permitting a new discharge to the stream. Piping the discharge to Stinking Creek via pipe, ditch or combination was discussed. .*